



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

RBW6305G18631-3G

Job Sheet 172411



Part No: RBW6305G18631-3G

Job Qty: 3 ea

Part Name: Ecs Drive Quill Housing Remover



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 2/16/18

Job Tracking No:

Due Date: 4/16/18

Created By: Marie Lajeunesse

Type: SOLD

Description:

Note: DWG RBW6305G18631-3G Rev 2 IPP Rev A 18.02.15 New issue DP Verify DD

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
100	Purchasing	3 pcs		4/16/18	0.00	0.00	Purchasing		AT 18/04/26
110	Packaging	3 pcs		4/16/18	0.00	0.00	Packaging2		AT 18/04/26
120	QC	3 pcs		4/16/18	0.00	0.00	QC6		38
130	Packaging	3 pcs		4/16/18	0.00	0.00	Packaging3	DAS	APR 27 2018
140	QC21-FG	3 Ea		4/16/18	0.00	0.00	QC21	21	GA 1/5

Part Op 100 - Issue PO to ARROW TECH MACHINE WORKS P/O: 0351084 MANUFACTURE RBW6305G18631-3G AS PER
Descriptions: DWG -Certificate of conformity is required

FEB 22 2018

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
RBW6305G18631-3GP	Ecs Drive Quill Housing Remover	3 (1 ea)	100-Purchasing	5065412

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
100-Purchasing	RBW6305G18631-3GP	3	0	0

Part Specifications

Specifications could not be found.

Plex 2/16/18 9:48 AM Dart.lajeunesse.marie

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

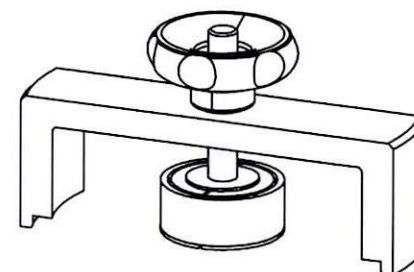
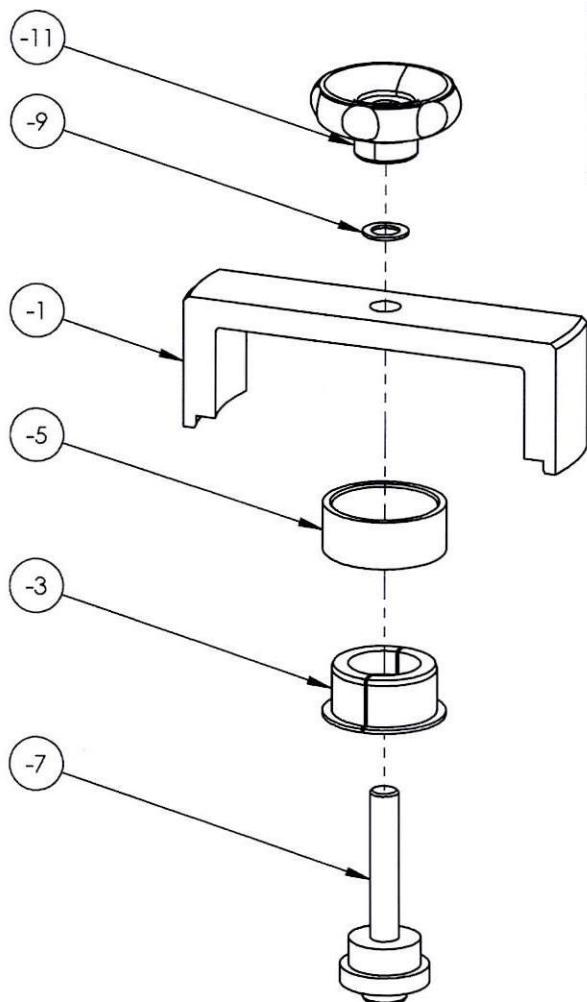


QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="width:15%;">Skid-tube ☐</td> <td style="width:15%;">Cross tube ☐</td> <td style="width:15%;">Water Jet ☐</td> <td style="width:15%;">Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>				Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐									
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Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval																									
Description Work Order Deviation			Disposition																										
Job No: 172411 Mtg Date: 04/26/18 Change No: Operation: Revision: Serial No/Batch: S065494 PART NO: RBW6305G18631 - 3G Ecs Drive Quill Housing Remover Packaging				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval																									
Root Cause <table style="width:100%; border: none;"> <tr><td>Environment ☐</td><td>No Re-verificatic ☐</td></tr> <tr><td>Design ☐</td><td>Operator ☐</td></tr> <tr><td>Doc/Data ☐</td><td>Offset/Setup ☐</td></tr> <tr><td>Equip/Tooling ☐</td><td>Supplier ☐</td></tr> <tr><td>Handling/Pre ☐</td><td>Training ☐</td></tr> <tr><td>Material ☐</td><td>Use for Testing ☐</td></tr> <tr><td>Internal Transport ☐</td><td>Poor Information ☐</td></tr> <tr><td>Tribal Knowledge ☐</td><td>Rushing ☐</td></tr> <tr><td>LOA ☐</td><td>Product Improvement ☐</td></tr> <tr><td>Substation ☐</td><td>Process Improvement ☐</td></tr> <tr><td>Past Expiry Date ☐</td><td>Manufacturing Process ☐</td></tr> <tr><td>Misidentified ☐</td><td>Past Due ☐</td></tr> </table>		Environment ☐	No Re-verificatic ☐	Design ☐	Operator ☐	Doc/Data ☐	Offset/Setup ☐	Equip/Tooling ☐	Supplier ☐	Handling/Pre ☐	Training ☐	Material ☐	Use for Testing ☐	Internal Transport ☐	Poor Information ☐	Tribal Knowledge ☐	Rushing ☐	LOA ☐	Product Improvement ☐	Substation ☐	Process Improvement ☐	Past Expiry Date ☐	Manufacturing Process ☐	Misidentified ☐	Past Due ☐	Dart Aerospace Ltd. 1270 Aberdeen Street Hawkesbury, ON K64 1K7 CANADA TEL: 1 613 632-5200 Email: sales@dartaero.com www.dartaerospace.com Container No: S065494 DART AEROSPACE ze led			
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		OTHER : _____																											

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
1		CH'D -1 BOM INFO PER S.E. CH'D -1 ENGRAVE NOTES PER R.W. & RADIUS FROM R.100 PER G.E. CH'D -3 CUTLINE GAP FROM .040 PER G.E.	5/9/2011	RJC	RW
1A		CH'D TOOL NAME WAS ECS DRIVE QUILL HOUSING REMOVER IS TOOL, ECS DRIVE QUILL SEAL HOUSING REMOVER TO MATCH PARTS MANUAL.	11/4/2013	RJC	RW
2	17-0091	UPDATED TO NEW STANDARD. ADDED OEM REF NOTE. DELETED DIMS 3.585, 5.448. -1 CH'D DIMS WAS 2X Ø8.255 IS Ø8.255, WAS 2X Ø8.813 IS Ø8.813, WAS 2X Ø7.390 IS Ø7.390, WAS 1.900 IS 1.90, WAS 2X 30° IS 30°, WAS 2X 2.990 IS 2.99, WAS 2X.276 IS .276, WAS 2X 2.362 IS 2.36, WAS 2X .063 IS .06, WAS R.125 IS R.13, WAS 2X .12 X 45° IS .12 X 45°. -3 CH'D DIMS WAS 1.141 IS 1.14, WAS BASIC .079 IS .078-.080, WAS BASIC .058 IS .057-.059, WAS BASIC Ø1.784 IS Ø1.783-1.785. DELETED DIM 2X 1.316. CORRECTED GD&T. -5 CH'D DIM WAS 1.061 IS 1.06. CORRECTED GD&T WAS 1 IS // . -7 CH'D MAT'L WAS 4140 Q&T IS 4140/4142. ADDED HEAT TREAT RC 28-34. CH'D FINISH WAS CAD PLATE YELLOW QQ-P-416F TYPE II CLASS II IS ZINC PLATE ASTM B633 TYPE I SC2. CH'D DIMS WAS 4.725 IS 4.73, WAS .070 IS .07, WAS 60° IS 30°. DELETED DIM .178. ADDED DIM 3.16 MIN. -11 CH'D B/O REF WAS REID #KHN-115 IS 5/8-11 X Ø3.27 X 1.57 (MSC #52216553).	4/20/2017	DPD	JAG

NOTES:

- PART OF KIT RBW6305G01531-3G, BOX TWO RBW6305G19731-3G.
- REF. AGUSTA T/N: 3G6305G18631.

DART AEROSPACE	
TITLE TOOL, ECS DRIVE QUILL SEAL HOUSING REMOVER	
DWG NO. RBW6305G18631-3G	REV 2
MAT'L HEAT TREAT FINISH SPEC	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES .XXX ± .005 FRACTIONS ± 1/8 .XX ± .01 ANGLES ± 5° .X ± .1 SURFACES = 125/√
DRAWN BY: CLOUGH	1. BREAK ALL SHARP EDGES .015 x 45° OR .015R
CHECKED: SM 04/20/2017	2. DIMENSIONAL LIMITS APPLY AFTER PLATING
OPPS APPR: AA 05/09/2017	3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009
QA APPR: JL 05/10/2017	USED ON MODEL
APPROVED: JAG 05/18/2017	AW139
SCALE 1:4	DATE 2/4/2011
SHEET 1 OF 5	

ASSY QTY	ASSY QTY	B/O	Part #	UNIT QTY	Description	Material	B/O INFORMATION OR SPECIFICATIONS	PG.
			-1	1	FRAME	6061		2
			-3	1	TWO HALF KEEPER	6061		3
			-5	1	LOCK RING	6061		4
			-7	1	PULLER	4140/4142		5
		B/O	-9	1	WASHER	ALUMINUM	Ø5/8 I.D. X Ø1 O.D. X .063 (MCMaster-CARR #92661A745)	1
		B/O	-11	1	6 LOBE KNOB	PLASTIC	5/8-11 X Ø3.27 X 1.57 (MSC #52216553)	1

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : _____					



Dart Aerospace Ltd.
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K6A 1K7
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Tel (613) 632-5200

PURCHASE ORDER **PO039084**

Items											
Line Item	Part	Supplier Part No	Item No	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (USD)	Extended Price
				3G Rev. 1							
Line Item Note job# 172416											
15	RBW6305G14631-3GP			Tail Rotor Drive Quill Seal Housing Remover As Per Dwg RBW6305G14631-3G Rev. 1A	Firmed	4/16/18	3 Ea	0 Ea	3 Ea	\$1,205.32/Ea	\$3,615.96
Line Item Note job# 172415											
16	RBW6305G14831-3GP			Tail Rotor Drive Quill Lip Seal Remover As Per Dwg RBW6305G14831-3G Rev. 2	Firmed	4/16/18	3 Ea	0 Ea	3 Ea	\$922.80/Ea	\$2,768.40
Line Item Note job# 172414											
17	RBW6305G16031-3GP			Drive Quill Seal Housing Remover As Per Dwg RBW6305G16031-3G Rev. 2	Firmed	4/16/18	3 Ea	0 Ea	3 Ea	\$981.65/Ea	\$2,944.95
Line Item Note job# 172413											
18	RBW6305G18331-3GP			Ecs Drill Quill Lip Seal Remover As Per Dwg RBW6305G18331-3G Rev. B	Firmed	4/16/18	3 Ea	0 Ea	3 Ea	\$534.40/Ea	\$1,603.20
Line Item Note job# 172412											
19	RBW6305G18631-3GP			Ecs Drive Quill Housing Remover As Per Dwg RBW6305G18631-3G Rev. 2	Firmed	4/16/18	3 Ea	0 Ea	3 Ea	\$1,043.33/Ea	\$3,129.99
Line Item Note job# 172411											
20	RBW6305G19231-3GP			Puller Rotor Brake Adapter Flange Remover As Per Dwg RBW6305G19231-3G Rev. 2	Firmed	4/16/18	3 Ea	0 Ea	3 Ea	\$740.19/Ea	\$2,220.57
Line Item Note job# 172410											
21	RBW6305G19151-3GP			Guide Fan Drive Quill Seal Housing Installer As Per Dwg RBW6305G19151-3G Rev. B	Firmed	4/16/18	3 Ea	0 Ea	3 Ea	\$132.32/Ea	\$396.96
Line Item Note job# 172402											
22	RBW6305G16231-3G-1P			Handle As Per Dwg RBW6305G16231-3G-1 Rev. 2	Firmed	4/16/18	3 Ea	0 Ea	3 Ea	\$368.38/Ea	\$1,105.14



ARROW TECH MACHINE WORKS

Certificate of Conformance

Your Purchase Order No:039084

Dated: 04/24/2018

Our Order / Job No:13AWT

Order Qty: 3

Part Name: Tool, ECS Drive Quill Seal Housing Remover

Part Number: RBW6305G18631-3G

Lot Size: N/A

Ship Date: 04/24/2018

We certify that these parts shipped to you are of domestic or international manufacture and conform to all requirements of the Purchase Order. These parts have been manufactured and inspected in accordance with all required specifications, instructions and drawings. Any applicable specifications are listed below:

Drawing Number: RBW6305G18631-3G

Rev: 2

Material Size and Type: -1/6061 ALUM.; -3/6061 ALUM.; -5/6061 ALUM.; -7/4140

Material Specifications: ALUMINUM – ASTM B221; STEEL- ASTM A108, ASTM A29

Heat Treatment: N/A

Plating/Finish: CLEAR ANODIZE: MIL-A-8625F, TYPE II, CLASS I; ZINC PLATE: ASTM B633 TYPE I SC 2

Mercury Contamination: The material used to process this order has not come in contact with mercury or mercury bearing instruments.

Date: 4/24/18

Signed: Hernan M. Salas

PHGE Machine Works LLC dba Arrow Tech Machine Works
29751 E. Enid Rd. Unit C Eugene, Oregon 97402
Main: (541) 780-6938 | Fax: (458) 215-4938
www.atechmachineworks.com

DAS
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APR 26 2018